2010 SCPC Data User's Guide

Introduction

There are 2102 observations in the 2010 Survey of Consumer Payment Choice (SCPC). The Consumer Payments Research Center (CPRC) designed a more rigorous data cleaning procedure for processing the 2010 data, and retrospectively applied the procedure to the 2008 and 2009 SCPC datasets to make the data across years comparable. As a result, the values of some variables pertaining to payment use and cash management might be changed from those released in previous years.

The 2010 SCPC was administered online to a sample of 2102 U.S. consumers by the RAND Corporation as a module of the American Life Panel (ALP). Survey responses were weighted to match the national population estimates from the U.S. Census Bureau's Current Population Survey.

Variable types

There are two broad categories of variables: created and survey variables.

The created variables were created by the staff of the CPRC to aid in data analysis. Most of these variables have descriptive names based on a combination of mnemonics. The next section of this document, titled "Mnemonic-based variables" explains the mnemonics and the structure of the variable names that use them. Every effort has been made to maintain a consistent mnemonic structure across all years of the SCPC. However, changes in the survey questionnaire have led to the creation of some new mnemonics, with some of the older ones falling out of use. In addition, this section describes flags, which have names that are based on both mnemonic and survey variables. A brief explanation of these variables and their purpose is provided in the Flags subsection. Because these variables were created for preliminary data analysis, only some of the questions and concepts in the survey have corresponding mnemonic-based variables.

The third section of this document, "Non-mnemonic variables," describes created variables that *do not* follow the mnemonic-based naming conventions. These variables include unique respondent identifiers, weights, and certain demographic categories. The section also includes "intermediate" created variables that were created as part of the frequency conversion of some responses, or in unwinding of randomized response options.

The survey variables are the actual results from the survey questions. Prior to answering the questions in the SCPC, the respondent is asked to complete the ALP's My Household Questionnaire (MHQ). The

MHQ is used to gather demographic data about each respondent. The names and definitions of survey variables are embedded in the questionnaires, which are available for download on the Boston Fed SCPC website.

Conversions of survey variables

Two processes have been applied to some variables in the dataset to make them useful for researchers. First, questions with randomized response options have been processed to unrandomize the responses. Second, survey variables that allow respondents to choose between multiple response frequencies have been converted to one frequency for analysis. More detail on each process follows.

Unwinding randomization: To avoid potential biases arising from the order of response options presented to respondents, the survey instrument randomizes response options for some questions. The questionnaire clearly indicates if response options were randomized. The raw data from the unrandomized variables and the SAS macros that unrandomize the responses will be made available upon request.

Frequency conversion: Respondents are given the option of enumerating payment use and cash management in terms of a typical week, month, or year. This dataset includes variables where responses have been standardized to a monthly frequency. The difference between the "intermediate" and the "mnemonic-based" is that the mnemonic-based variables are coded as 0 for respondents who have not adopted the respective payment instrument.

The SAS macros for these frequency conversions can be made available upon request.

Further information:

Please see Federal Reserve Bank of Boston Research Data Report No. 13-2, *The 2010 Survey of Consumer Payment Choice,* by Foster, Schuh, and Zhang (RDR 13-2), for further information, including:

- An overview of the survey
- Tables of survey results
- Definitions of the terminology used
- Additional contact information.

Stable URL: http://www.bostonfed.org/economic/rdr/2013/rdr1302.htm

Stable URL for the data: http://www.bostonfed.org/economic/cprc/scpc/index.htm

Questions regarding the data can be directed to:

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Mnemonic-based variables

Most created variable names are a combination of two or more mnemonics, combined using underscores.

Typically, the first mnemonic refers to the payment instrument and the second or last mnemonic indicates the concept being communicated, such as its characteristic, adoption, or typical use. This is not always the case: a number of variables describe concepts that are independent of any payment instrument.

This section covers mnemonics in roughly the order their corresponding questions appear in the SCPC questionnaire. The major subsections describe mnemonics for payment instruments, the assessment of payment characteristics, payment adoption, and payment use. The last subsection, Flags, includes a brief explanation of the data cleaning and imputations.

For definitions of concepts in this section please see Section XI, Definitions and concepts, in the 2010 SCPC results paper.

Payment instruments

csh	Cash
chk	Check
dc	Debit card
cc	Credit card
svc	Stored-value card/prepaid card
banp	Bank account number payment
obbp	Online banking bill payment
mon	Money order
tc	Traveler's check

Payment instruments are grouped as follows:

paper	Cash, check, money order, traveler's checks
card	Credit cards, debit cards, prepaid cards
elect	Bank account number payments, online banking bill payments
pi	Used in variables describing the set of all payment instruments

Note: Respondents are asked about their use of direct deductions from income to make automatic bill payments; thus income is included as a payment instrument for payment use variables (discussed below). However, it is *not* considered a payment instrument and is not included as an electronic payment instrument.

Assessment of payment characteristics

security	Security
setup	Getting and setting up
acceptance	Acceptance for payment
cost	Cost
records	Payment records
convenience	Convenience

For example: The variable *csh_security* contains respondents' rankings (1 to 5) of the security of cash.

Other 'assessment of characteristics' mnemonics

Questions AS012_a to AS012_h presented respondents with a randomized list of payment characteristics and asked them to rank the importance of each payment characteristic. In 2010 respondents were asked to rank six payment characteristics. After unwinding the randomization of the order in which payment characteristics were presented, the ranking variables are grouped as follows:

as012_an[1-6]	Acceptance for payment
as012_bn[1-6]	Getting and Set up
as012_dn[1-6]	Cost
as012_en[1-6]	Convenience
as012_fn[1-6]	Payment records
as012_hn[1-6]	Security

Questions as004_a to as004_e asks respondents to assess the security features of five different payment locations. Question as005 asks respondents to rate the security of different methods of authorizing a debit card payment. Both sets of variables as004 and as005 have a 5-point scale for the response options. All these variables are named as a combination of mnemonics and "_security".

inperson	In person payment
online	Online payment
bymail	Payment made by mail
byphone	Payment made by phone
mobile	Mobile payment
pindc	PIN debit card payment
sigdc	Signature debit card payment
nopinsigdc	No PIN and no signature debit card payment
onlinedc	Debit card payment online

For example: The variable *sigdc_security* contains respondents' rankings (1 to 5) of the security of transactions made by signature debit card.

Payment adoption

adopt	Respondent is currently an adopter (Y/N)
ever	Respondent was an adopter (Y/N)
discard	Respondent was an adopter, not anymore (Y/N)
num	Number of payment instruments (equals 0 for non-adopters)

Payment history

stolen_lost	Incidence of payment instrument stolen or lost (Y/N)
stolen_lost_amnt_incidence	Dollar amount of financial losses or fraudulent charges due to payment instrument

	being lost or stolen

For more detail about the variables listed above, please refer to questions ph022 and ph023 in 2010 SCPC questionnaire.

Examples: csh_stolen_lost equals 1 if the respondent reported cash being lost or stolen in the past 12 months; csh_stolen_lost_amnt_incidence indicates the amount of cash being lost or stolen in the past 12 months.

Payment accounts

In addition to the payment instruments above, respondents are also asked about their bank account adoption, and adoption of other payment technologies.

chk_acnt	Checking account
sav_acnt	Savings account
bnk_acnt	Bank account (checking or savings account)
mm_acnt	Money market or brokerage account
pp_acnt (or pp)	Non-bank online payment account (e.g. Paypal, Google Checkout, Amazon Payments)
mm_acnt_chk	Money market account with check writing privileges
atm	ATM-only cards
chk_blnk	Blank checks
tb	Telephone banking
ob	Online banking (need not include bill pay)
mb	Mobile banking
mp	Mobile payments
smartphone	Smart phone
text_plan	Cell phone with text plan feature
web_browsing	Cell phone with web browsing capability

contactless	Contactless payment technology (used with cc, dc, svc, mp)
txtpay	Payment made via text message (used with mp)
keyfob	Key fob
etp	Electronic toll payment
rewards	Rewards (used with cc, dc)
norewards	No rewards (used with cc, dc)
onlyrewards	All cards bear rewards, i.e.: no non-reward cards (used with cc, dc)
reloadable	Feature of prepaid cards whose value can be increased
reload	Action taken to increase value of a prepaid card

Example:

- *svc_reloadable_adopt* equals 1 if the respondent has a reloadable prepaid card; *svc_reload* equals 1 if the respondent reloaded his/her prepaid card in the preceding 12 months.

Note: Please refer to Section XI, Definitions and concepts, Table 3 in the 2010 SCPC results paper for definitions of adoption for payment instruments, bank accounts, and payment technologies. Table 1 contains more detailed definitions of banking concepts listed above.

Payment cards

In the 2010 SCPC, respondents were asked about three types of credit cards and four types of prepaid cards. Variables containing disaggregated information for each type of card have names with the following mnemonics (indicating card type) following the respective mnemonic for the card. Pages 21–23 of the questionnaire define these card types in greater detail.

gp	General purpose (used with cc, svc)
charge	Charge cards (used with cc) – balance has to be paid in full at the end of each billing period
branded	Branded cards (used with cc) – having a merchant's logo on it, e.g.: Sears card, Amazon.com card
specific	Specific purpose (used with svc) – to be used with a specific merchant, or public transportation cards

payroll	Cards containing wages or salary (used with svc)
ebt	Electronic benefits transfer – cards containing government benefits (used with svc)

Examples:

- *cc_gp_rewards_num*: the number of general purpose credit cards bearing rewards
- *cc_gp_num*: the number of general purpose credit cards
- *cc_rewards_num*: the number of rewards cards.

Payment use

For each payment instrument and seven transaction types, respondents are asked to report their payment use behavior—how frequently they use a payment instrument for a specific transaction type. Therefore, at the most disaggregated level, a payment use variable name consists of three mnemonic components: the payment instrument, followed by the transaction type, ending with a suffix that indicates the type of payment use information (incidence of use, frequency of use, and share of all transactions made). The two tables below list the mnemonics for the transaction types and the information type.

Transaction types

abp	Automatic bill payment
obp	Online bill payment
ipbp	In-person bill payment (or via mail)
bp	Bill payment i.e. sum of abp, obp, ipbp
op	Online (non-bill) payments
rp	Retail payments (made in-person)
serv	Services and other payments (in-person)
p2p	Person-to-person payment
pos	Point-of-sale payment (sum of rp and serv)
servp2p	Sum of service and p2p payments
posp2p	All in-person (non-bill) payments, i.e. sum of rp, serv and p2p

Note: For definitions of these transaction types, please see Section XI, Table 5 in the 2010 SCPC results paper and the question text on pages 28-35 of the 2010 SCPC questionnaire.

Types of payment use information:

typ	Number of transactions in a typical month
t_m	Respondent makes the corresponding type of payment at least once in a typical month (Y/N)
t_y	Respondent makes the corresponding type of payment at least once in a typical year (Y/N)
sh	Number of transactions in a typical month, as proportion of all payments

Note: For definitions of these categories of payment use, please see Section XI, Table 4 in the 2010 SCPC results paper.

Examples:
- *csh_serv_typ*: number of payments made for a service or other non-retail transaction using cash in a typical month
- *obbp_obp_typ*: number of online bill payments made using online banking bill payment in a typical month
- *dc_op_t_y*: dummy variable indicating whether respondent uses a debit card to make an online (non-bill) payment in a typical year

These variables which represent payment instrument and transaction type level of payments can be aggregated by payment instrument, by transaction type, or by groups of payment instruments or transaction types. For example:

- *abp_typ*: number of automatic bill payments in a typical month
- *posp2p_typ*: number of in-person transactions made in a typical month
- *chk_typ*: number of payments made using checks in a typical month
- *elect_typ*: number of payments made using any of the electronic payment instruments in a typical month

Although these examples all use _typ, corresponding dummy variables exist with _t_m or _t_y suffixes.

Please note that not all combinations of payment instruments and transaction types exist. This is because they were assumed not to be possible at the time of the survey. The following table illustrates combinations that *do* exist in the data and the corresponding combinations of mnemonic prefixes:

	bp			op	posp2p		
					rp	servp2p	
					pos†		
	abp	**obp**	**ipbp**	**op**	**rp**	**serv**	**p2p**
csh			csh_ipbp		csh_rp	csh_serv	csh_p2p
chk			chk_ipbp	chk_op	chk_rp	chk_serv	chk_p2p
mon			mon_ipbp	mon_op	mon_rp	mon_serv	mon_p2p
tc	tc_ (not asked by transaction type)						
dc	dc_abp	dc_obp	dc_ipbp	dc_op	dc_rp	dc_serv	dc_p2p
cc	cc_abp	cc_obp	cc_ipbp	cc_op	cc_rp	cc_serv	cc_p2p
svc			svc_ipbp	svc_op	svc_rp	svc_serv	
obbp	obbp_abp	obbp_obp					obbp_p2p
banp	banp_abp	banp_obp		banp_op			banp_p2p
income	income_abp						

† For comparison with 2008 SCPC data, pos = rp + serv

* Although respondents may have automatic bill payments directly deducted from their paycheck, "income" is not treated as a payment instrument and is excluded from the assessments of payment characteristics.

The variable *tot_pay_typ* is defined for each respondent as the sum of all payments made in a typical month. The share variables "_sh" express the original "typ" variable as a proportion of *tot_pay_typ* for that respondent.

The tables in the 2010 SCPC results paper describing payment shares are not computed using these individually defined variables. Instead, each share denotes the total number of transactions falling under that category as a proportion of all reported transactions, aggregated over all respondents. This differs slightly from taking means of the _sh variables defined in this document: it weights respondents who have a large number of transactions more heavily than respondents who have a smaller number of transactions.

Number of payment instruments

In addition to being used as a suffix, the mnemonic "num" is also used as a prefix, to indicate the number of payment instruments, or groups of payment instruments.

Examples:

- *num_pi_adopt*: number of payment instruments adopted by respondent
- *num_pi_t_m*: number of payment instruments used in a typical month
- *num_paper_bp_t_y*: number of paper instruments used for bill payments in a typical year (Note that from the table above, this variable can only take the values 0, 1, 2, or 3.)
- *num_op_t_m*: number of payment instruments used for online payments in a typical month
- *num_card_t_m*: number of payment instruments of the card group (cc, dc, svc) used in a typical month

Cash use

The SCPC includes a number of questions specifically on where respondents get cash, how often they get cash, and what amounts of cash they obtain most often. The following mnemonics are all used exclusively with the prefix "csh":

get	Respondent gets cash in a typical month or year from the source indicated in the suffix that follows (see cash sources below)
amnt	Dollar amount of cash per withdrawal
freq	Frequency of cash withdrawals
month	Total dollar amount of cash got in a typical month
wallet	Amount of cash kept on person (in a purse, wallet or pocket)
house	Amount of cash kept in respondent's home or on their property.

Cash sources:

atm	ATM
bankteller	Bank teller
checkstore	Check cashing store

retail	Cash back at the retail point of sale
employer	Directly from an employer
family	A friend or family member
other	Some other source of cash

Examples:

- *csh_get_checkstore* equals 1 if respondent reports that a check cashing store is their most common source of cash
- *csh_freq_retail*: The number of times in a typical month that respondent gets cash from cash back at the retail point of sale
- *csh_wallet*: The amount of cash respondent keeps on her/his person

The following variables are related to cash use, but do not use the mnemonics above.

- *csh_amnt_1st*: Amount of cash withdrawn from primary source of cash
- *csh_freq_1st:* Frequency of cash withdrawals from primary source of cash
- *csh_month_1st*: Total amount of cash withdrawn from primary source in a typical month

These variables can also be found with the suffix "2nd" instead of "1st". The suffix 2nd means cash from *all other sources* besides primary source.

Variables defined conditional on adoption

Some tables in the 2010 SCPC results paper include statistics that are calculated conditional on the adoption of a bank account, a certain payment instrument, or other payment technology. Separate variables were created to facilitate this calculation for the tables; these variables all end with the suffixes "_adopt_only", indicating the conditional coding of the underlying variable. Such variables contain missing values (rather than zeros) for non-adopters of the respective account/instrument/technology.

Flags

Some variables are cleaned based on outlier analysis done by the staff of the CPRC at the Boston Fed.

All variables of the form "f_" followed by a variable name are flags for the corresponding variables, with a value of 1 indicating that the particular observation was identified as an outlier and cleaned by the CPRC.

Non-mnemonic variables

Identifiers

prim_key	Unique respondent identifier

The variable prim_key is of the form xyyzzzz:n or xxyyzzzz:n (for 2010 onward), where x or xx is year (9 for 2009, 10 for 2010, e.g.), yy is month (08 for august, e.g.), and zzzz is a household identifier within that year/month. xyyzzzz and xxyyzzzz are the unique household identifier. The number to the right of the colon is the member id (1, 2, ..., n) for a panel member inside a household. It is assigned in the order that the respondent entered the survey; only respondents with memberid equal to 1 were originally recruited from the University of Michigan's Survey of Consumers or the Face to Face Internet Survey Platform. Those with member id numbers of 2 or greater are household members of the original recruits.

Weights

r_weight	Post-stratification weights - from a raking procedure

Demographic variables

age	Age
cellphone	Have cell phone (Y/N)
edu_lhs	Education: less than high school (Y/N)
edu_hs	Education: high school (Y/N)
edu_sc	Education: some college (Y/N)
edu_c	Education: college (Y/N)
edu_pgs	Education: post-graduate studies (Y/N)
white	Race: white (Y/N)
black	Race: black/African American (Y/N)
asian	Race: Asian (Y/N)
other	Race: Other (Y/N)
latino	Ethnicity: Latino or Hispanic (Y/N)
male	Male (Y/N)
inc_lt25	Household income: under $25,000 per year (Y/N)
inc_2549	Household income: $25,000-49,999 per year (Y/N)
inc_5074	Household income: $50,000-74,999 per year (Y/N)

inc_7599	Household income: $75,000-99,999 per year (Y/N)
inc_100124	Household income: $100,000-124,999 per year (Y/N)
inc_125199	Household income: $125,000-199,999 per year (Y/N)
inc_gt200	Household income: Greater than $200,000 per year (Y/N)
married	Marital status: married (Y/N)
separated	Marital status: separated (Y/N)
widowed	Marital status: widowed (Y/N)
single	Marital status: single (Y/N)
working_now	Currently working (Y/N)
unemployed	Unemployed and looking for employment (Y/N)
temp_laid_off	Temporarily laid off, on sick leave, or other leave (Y/N)
disabled	Disabled (Y/N)
retired	Retired (Y/N)
homemaker	Homemaker (Y/N)
job_other	Current job status: Other (Y/N)
house_market_value	Market value of primary home (in 1000's of USD)
non_house_assets	Value of assets besides primary home (in 1000's of USD)
non_house_debts	All debt excluding amount owed on mortgage (in 1000's of USD)
loans_house	Outstanding balance on all loans for your primary home

Bank account adoption

chk_acnt_inst	Type of financial institution for primary checking account (See pa006 in questionnaire)
chk_acnt_interest	Primary checking account pays interest (Y/N)
sav_acnt_inst	Type of financial institution for primary savings account (See pa007 in questionnaire)
chk_overdraft_adopt	Does checking account have overdraft protection? (See

	pa005 in questionnaire)
no_chk_acnt_reason_1 - _7	Y/N variables corresponding to each reason for not having a checking account (see item pa002 in the 2010 SCPC questionnaire)

Other variables

cc_debt_revolver	Does the respondent revolve their credit card balance?
cc_debt_amnt	The unpaid balance on all of last month's credit card bills. See pu010.
cc_debt_adopter_amnt	The unpaid balance on all of last month's credit card bills for adopters of credit cards only.
cc_debt_revolver_amnt	The unpaid balance on all of last month's credit card bills for balance revolvers only.
cc_balance_much_lower	Unpaid balance last month compared to unpaid balance 12 months ago: much lower
cc_balance_lower	Unpaid balance last month compared to unpaid balance 12 months ago: lower
cc_balance_same	Unpaid balance last month compared to unpaid balance 12 months ago: same
cc_balance_higher	Unpaid balance last month compared to unpaid balance 12 months ago: higher
cc_balance_much_higher	Unpaid balance last month compared to unpaid balance 12 months ago: much higher
svc_reload_oadopt_amnt	Typical dollar amount per prepaid card reloading
svc_reload_oadopt_freq	Number of prepaid card reloading in a typical month
svc_reload_total_amnt	Total dollar amount of prepaid card reloading in a typical month
svc_reload_amnt	Amount respondent adds most often to the prepaid card that is most often reloaded (see pa029)
svc_reload_csh	Prepaid card most commonly reloaded using: cash (see pa101)

svc_reload_cc	Prepaid card most commonly reloaded using: credit card (see pa101)
svc_reload_chk	Prepaid card most commonly reloaded using: check (see pa101)
svc_reload_income	Prepaid card most commonly reloaded directly from income (see pa101)
svc_reload_dc	Prepaid card most commonly reloaded using: debit card (see pa101)
svc_reload_other	Prepaid card most commonly reloaded using something besides the options above (see pa101)
email_bnk_acnt	Ever disclosed online: bank account number
email_cc	Ever disclosed online: credit card number
email_dc	Ever disclosed online: debit card number
email_maiden	Ever disclosed online: mother's maiden name
email_ssn	Ever disclosed online: social security number
credit_sc_u600	Credit score: less than 600
credit_sc_600649	Credit score: 600-649
credit_sc_650700	Credit score: 650-699
credit_sc_700749	Credit score: 700-749
credit_sc_750799	Credit score: 750-800
credit_sc_o800	Credit score: greater than 800
credit_sc_dk	Credit score: don't know
fin_diff_lostjob	Financial difficulties in last 12 months: respondent or household member lost their job (see ph009)
fin_diff_bankruptcy	Financial difficulties in last 12 months: respondent declared bankruptcy (see ph009)
fin_diff_foreclosure	Financial difficulties in last 12 months: mortgage foreclosure on respondent's primary home (see ph009)
fin_diff_cc_closed	Financial difficulties in last 12 months: credit card account closed or frozen (see ph009)
fin_diff_7_bankruptcy	Financial difficulties in last 7 years: respondent declared bankruptcy(see ph020)
fin_diff_7_foreclosure	Financial difficulties in last 7 years: mortgage foreclosure

	on respondent's primary home (see ph020)
frugal_coupon	During past 12 months: respondent used coupons
frugal_rebate	During past 12 months: respondent used a mail-in rebate
frugal_wholesale	During past 12 months: respondent shopped at a wholesale club
frugal_paycash	During past 12 months: respondent paid in cash in order to receive a discount
taxes_computer	Preparation of 2008 federal income tax return: respondent, using tax computer software (see ph014)
taxes_paper	Preparation of 2008 federal income tax return: respondent, by hand, on a paper tax return (see ph014)
taxes_family	Preparation of 2008 federal income tax return: a family member, household member, or friend (see ph014)
taxes_company	Preparation of 2008 federal income tax return: a tax service company (see ph014)
taxes_accountant	Preparation of 2008 federal income tax return: respondent's accountant or financial planner (see ph014)
taxes_none	Preparation of 2008 federal income tax return: respondent has never submitted a federal tax return (see ph014)
taxes_other	Preparation of 2008 federal income tax return: other (see ph014)
inflation_actual	Respondent's estimate of actual inflation during the previous 12 months
inflation_expected	Respondent's estimate of expected inflation during the subsequent 12 months
internet_access	Does respondent have access to the internet for personal use at home, work or another location?
internet_home	Where respondent has access to internet: at home
internet_work	Where respondent has access to internet: at work
internet_other	Where respondent has access to internet: at another location

Frequency converted payment use variables

pa018_1	How often respondent gets cash – 1st ranked location, aggregated to monthly frequency
pa018_2	How often respondent gets cash – 2nd ranked location, aggregated to monthly frequency
pa023	How often respondent reloads svc, aggregated to monthly frequency
svc_reload_freq	How often respondent reloads svc, aggregated to monthly frequency (see pa023, cleaned outliers)

pu002_a	Total number of abp made using dc, aggregated to monthly frequency
pu002_b	Total number of abp made using cc, aggregated to monthly frequency
pu002_c	Total number of abp made using banp, aggregated to monthly frequency
pu002_d	Total number of abp made using income, aggregated to monthly frequency
pu002_e	Total number of abp made using obbp, aggregated to monthly frequency

pu003_a	Total number of obp made using dc, aggregated to monthly frequency
pu003_b	Total number of obp made using cc, aggregated to monthly frequency
pu003_c	Total number of obp made using banp, aggregated to monthly frequency
pu003_d	Total number of obp made using obbp, aggregated to monthly frequency

pu004_a	Total number of ipbp made using cash, aggregated

	to monthly frequency
pu004_b	Total number of ipbp made using chk, aggregated to monthly frequency
pu004_bmo	Total number of ipbp made using mon, aggregated to monthly frequency
pu004_c	Total number of ipbp made using dc, aggregated to monthly frequency
pu004_d	Total number of ipbp made using cc, aggregated to monthly frequency
pu004_e	Total number of ipbp made using svc, aggregated to monthly frequency

pu005_a	Total number of op made using chk, aggregated to monthly frequency
pu005_amo	Total number of op made using mon, aggregated to monthly frequency
pu005_b	Total number of op made using dc, aggregated to monthly frequency
pu005_c	Total number of op made using banp, aggregated to monthly frequency
pu005_d	Total number of op made using cc, aggregated to monthly frequency
pu005_e	Total number of op made using svc, aggregated to monthly frequency

pu006a_a	Total number of rp made using cash, aggregated to monthly frequency
pu006a_b	Total number of rp made using chk, aggregated to monthly frequency
pu006a_bmo	Total number of rp made using mon, aggregated to monthly frequency
pu006a_c	Total number of erp made using dc, aggregated to

	monthly frequency
pu006a_d	Total number of rp made using cc, aggregated to monthly frequency
pu006a_e	Total number of rp made using svc, aggregated to monthly frequency

pu006c_a	Total number of serv made using cash, aggregated to monthly frequency
pu006c_b	Total number of serv made using chk, aggregated to monthly frequency
pu006_bmo	Total number of serv made using mon, aggregated to monthly frequency
pu006c_c	Total number of serv made using dc, aggregated to monthly frequency
pu006c_d	Total number of serv made using cc, aggregated to monthly frequency
pu006c_e	Total number of serv made using svc, aggregated to monthly frequency

pu021_a	Total number of p2p made using csh, aggregated to monthly frequency
pu021_b	Total number of p2p made using chk, aggregated to monthly frequency
pu021_bmo	Total number of p2p made using mon, aggregated to monthly frequency
pu021_c	Total number of p2p made using dc, aggregated to monthly frequency
pu021_d	Total number of p2p made using cc, aggregated to monthly frequency
pu021_e	Total number of p2p made using banp, aggregated to monthly frequency
pu021_f	Total number of p2p made using obbp, aggregated

	to monthly frequency

pu008_c	Total number of payments made using tc, aggregated to monthly frequency

Unrandomized variables

as003a1	Rating for security of cash, equivalent to csh_security
as003a2	Rating for acceptance of cash, equivalent to csh_acceptance
as003a3	Rating for cost of cash, equivalent to csh_cost
as003a4	Rating for convenience of cash, equivalent to csh_convenience
as003a5	Rating for getting and setting up of cash, equivalent to csh_setup
as003a6	Rating for payment records of cash, equivalent to csh_records
as003b1–as003b6	Same characteristics as above, except for check
as003c1–as003c6	Same characteristics as above, except for debit card
as003d1–as003d6	Same characteristics as above, except for credit card
as003e1–as003e6	Same characteristics as above, except for prepaid card
as003f1–as003f6	Same characteristics as above, except for bank account number payment
as003g1–as003g6	Same characteristics as above, except for online banking bill pay
ph005_a	Ever entered online: Account number (Y/N)
ph005_c	Ever entered online: Credit card number (Y/N)
ph005_d	Ever entered online: Debit card number (Y/N)
ph005_e	Ever entered online: Mother maiden name (Y/N)
ph005_g	Ever entered online: Social security number (Y/N)

The difference between these "intermediate" frequency converted variables and the corresponding "mnemonic-based" variables is that the latter accounts for payment instrument adoption in the way missing values are coded. Payment use variables for non-adopters are adjusted to 0 instead of missing. We recommend that you use the mnemonic-based variables instead of the non-mnemonic variables wherever possible.